REMARKS/ARGUMENTS

Reconsideration and examination of this application is respectfully requested in light of the following remarks. Applicants submit that the foregoing amendments and the following remarks renders the instant electrolyte patentable over the art of record. Allowance is hereby solicited.

Claims 6 and 21 stand rejected under 35 U.S.C. §112, first paragraph for failing to comply with the written description requirement. Claims 1-2, 4, 6, and 21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Brown et al (U.S. 6,436,272). Claims 1-2, 4, 6, and 21 stand rejected under 35 U.S.C. §102 (b) as being anticipated by Brown et al (U.S. 6,379,512). Claims 3 and 22-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Brown '272 as applied to claim 1 and 21 above, in view of no secondary reference. Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Brown '512 in view of no secondary reference.

The following changes have been made in response to the Examiner's rejections. Claim 4 has been canceled. Claims 3, 22, and 24 have been amended with the added limitation of dissolved alumina. Support for this limitation is found throughout the specification, and specifically on page 7, lines 5-6, lines 17-19, and lines 28-30, and page 8, lines 1-5. Claim 24 has been further amended to recite a liquid electrolyte.

Claims 6 and 21 have been amended herein to remove the temperature range limitation.

Claims 25-27 have been added as product by process claims.

§112 Rejection of Claim 6 and 21

Claims 6 and 21 stand rejected under 35 U.S.C. §112 for failing to comply with the written description requirement. The Examiner stated that these claims contain subject matter that was not described in the specification in such a way as to reasonably enable one skilled in the relevant art to make and use it. Specifically, the Examiner stated that there was no literal support for the bottom side of the temperature range. Claims 6 and 21 are also interpreted as method claims.

In light of the Examiner's comments, claims 6 and 21 have been amended to remove the temperature range recitations.

Brown References Do Not Anticipate
Optimum Value for Sodium

Claims 1-2, 4, 6, and 21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Brown et al (U.S. 6,436,272). Claims 1-2, 4, 6, and 21 stand rejected under 35 U.S.C. §102 (b) as being anticipated by Brown et al (U.S. 6,379,512). Applicants submit that Brown is not applicable.

Anticipation under 35 U.S.C. §102(b) requires "the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

There is nothing in Brown which reveals it knew that less sodium increased alumina solubility. As more fully discussed in the accompanying 1.132 Affidavit, Brown does not recognize that less sodium in the electrolyte increases dissolved alumina loads. As a result, Brown's electrolyte is capable of containing only 1-2 % *dissolved* alumina, while the present electrolyte is capable of containing 4-6 % dissolved alumina (more about this dissolved alumina infra).

While the general rule, as set forth in In Re Aller, 220 F.2d 454, 42 CPA 824, 105 USPQ 233 (1955), states that the discovery of an optimum value of a variable in a known process is, under some circumstances, obvious and consequently not novel, there are exceptions. Specifically, if a claim describes a variable that is optimized (sodium in the present invention), and this optimized variable was not previously recognized in the prior art to be a result-effective variable, then the discovery of an optimum value of a variable in a known process is considered *nonobvious* and consequently cannot be considered disclosed by prior art reference. In Re Antonie, 559 F.2d 618, 1977 CCPA LEXIS 118, 195 USPQ (BNA) 6.

As the accompanying 1.132 Affidavit discusses, minimizing sodium loads increases alumina solubility, all of which lower the viscosity of the electrolyte such that it is a liquid. The use of less sodium in the electrolyte is neither anticipated nor suggested by Brown.

Therefore, based on the preceding argument, Applicants submit that the §102 rejection is obviated.

Brown Relies On
Undissolved Alumina

Claims 3, 22, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Brown et al. ('272) and claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Brown et al. ('512). Applicants submit that in light of the dissolved alumina recitation, the obviousness rejection is obviated. Reconsideration is respectfully requested.

The Examiner suggests that Brown renders obvious an electrolyte having alumina present at 4-6 weight percent given Brown ('272)'s range of 0.2 to 30 wt. % (Column 10, lines 62-64) and Brown ('512)'s range of 5 to 15 wt. % (Column 17, lines 1-21). But both Brown ranges explicitly deal with undissolved alumina, as they must since Brown's electrolyte is a slurry. The undissolved particle loadings in Brown requires those electrolytes to be a slurry, and is a classical expression of a slurry (See Affidavit).

Neither Brown reference anticipates or suggests 4-6 weight % of dissolved alumina to produce a *liquid* electrolyte, as previously recited in claims 6 and 21, and now recited in claims 24 and 25. As stated in the instant specification, *liquid* electrolytes increase inert electrode utility whereby slurry systems cause "operational difficulties and problems with metal collection as well as the fact that very strict requirements on cell design are needed to maintain alumina suspension." (Page 2, lines 22-30 of specification.)

In light of the instant amendment, the Applicants submit that the 35 U.S.C. §103 rejection is obviated. Reconsideration of claims 1-3, 6, and 21-24 is respectfully requested.

An earnest attempt has been made hereby to respond to the March 1, 2007 Official Action in the above-identified matter. The Applicants submit that the current amendments place the application in condition for allowance. If the Examiner feels that a telephone conversation will expedite allowance of the application, he is respectfully urged to contact the undersigned. Claims 1-3, 6, and 21-24, and new claims 25-27 are pending.

Respectfully submitted,
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